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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BURD, KEVIN MICHAEL

ART UNIT PAPER NUMBER

2631

DATE MAILED: 03/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/632,081

Applicant(s)

BANISTER, BRIAN

Examiner

Kevin M Burd

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the variables " w_{test1} ", " w_{test2} ", " w_{new} ", " a ", " a_k ", " w_{base1} ", " w_{base21} ", " A ", " p_1 ", " p_2 ", " C ", " I ", " F ", " D " and " E " must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. Claims 1-38, 40-43, 48-51, 54 and 55 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The variables " w_{test1} ", " w_{test2} ", " w_{new} ", " a ", " a_k ", " w_{base1} ", " w_{base21} ", " A ", " p_1 ", " p_2 ", " C ", " I ", " F ", " D " and " E " do not appear in the specification but appear in the claims. A number of claimed components appear in the claims but are not

supported in the specifications specifically, the equations of claim 4, 6, 7, 10, 13, the set of items and the vector shown in claim 14 and the equation of claim 25, 32, 33.

Correction or clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-56 are rejected under 35 U.S.C. 102(e) as being anticipated by Harrison et al (US 6,434,366).

Regarding claims 1-4, 31, 32, 35-43 and 48-56, Harrison discloses a method of transmitting signals from a plurality of antenna at a transmitting unit to a receiving unit. The device for transmitting is shown in figure 5. A plurality of sinusoidal radio carriers are generated and signals are modulated and transmitted from each of the plurality of antenna. Weight computer 306 computes a weight to adjust the amplitude and phase of the signal as shown in figure 5 and described in column 8, lines 18-33. The weighted signals are transmitted. The transceiver of figure 5 receives a feedback signal via antenna 310 that provides information to adjust the weights of the transmitter (column 8, lines 18-33). These new weights will be applied to a new signal to be transmitted. The

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newly weighted signal will be transmitted. The transceiver will receive new feedback information and the weights will be updated again as needed until all data has been transmitted. Numerous updates will occur.

Regarding claims 5-15, 25 and 33, the weight values are generated and each are formed from the weight computer 306 of figure 5.

Regarding claims 16-19 and 44-46, the time periods for computing the weight values will be known and comprise a plurality of time slots.

Regarding claims 20 and 47, the pilot signals are shown in figure 5 and are known in both the receiver and transmitter.

Regarding claims 21-24, 26-30 and 34, the receiver generates feedback signals after the first and second groups of weights are used. From this data a new weight group will be calculated.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dybdal et al (US 5,781,845) discloses a transceiver that receives a feedback signal that is used to adaptively update weights prior to transmitting information via an antenna array as shown in figure 2.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Kevin M. Burd
PATENT EXAMINER
3/10/2004